

A SYSTEM AND METHOD FOR SELECTIVE DECODING AND DECOMPRESSION

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ABSTRACT

A system and process that segments the video frames, thereby allowing selective decoding and possible decompression of just those specific regions that are to be viewed. Each frame is segmented into a plurality of regions such that the segmented regions correspond from one frame to the next. Each segmented region is then encoded separately. Once the frames have been segmented and encoded (which may include compressing them), they can be transferred to the viewer. One way to transfer the files involves an interactive approach and network connection. A viewing system identifies what portions of the scene the user wants to view and informs a server of the portions of the frame of the video that are needed to render the desired view of the scene to the user. The server then transfers only the requested portions of the next frame to the viewer. This process is repeated for each frame of the video. If an interactive approach is not possible, all the files associated with each segmented region of a panoramic frame are sent to the viewer. Once received, the viewer selectively processes and decompresses (if necessary) only those segments required to display the desired portion of the scene. The segmented and encoded frames can also be stored on a storage medium that is accessible by the viewer. In this case, the viewer reads only those segments needed to render the desired view. Thus, here too the viewer selectively processes only those segments required to display the desired portion of the scene.